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172 Following Brown's classification, we note the following copper objects in Wisconsin: Axes or hatchets (the most common), chisels, "spuds," gouges, spikes, spatulas, knives, spear and arrow points, harpoon points, pikes and punches, awls and drills, spikes, needles, and fishhooks.

The most important types of axes were the following: Those oblong in outline, with edges nearly parallel; those with straight edges and tapering, widest toward the cutting edge and becoming narrower toward the head. The head itself may be either flattened, rounded, or roundly pointed. This is the most common type found. The third type, according to Brown, resembles the second, "with the exception that the margin at the edges is slightly but distinctly elevated, thus giving a slightly depressed or concave surface in the center and from end to end on one or both broad faces of the ax. In some examples this margin is fully one-half inch in width at or near the middle."[11]

Three principal types of chisels were found: Those broadest at the cutting edge, with edges tapering gradually from this cutting edge to the head; those of nearly uniform width with straight parallel edges; and those with a more or less prominent median ridge.

According to Brown there can be no doubt as to their use. "It probably included the hollowing out of wooden canoes, troughs, and vessels . . ."[12]

Knives are quite common, there being two principal types—one with a straight back and oblique, curved, or straight cutting edge; and another distinguished from the latter by a greater breadth of its broad curved blade and terminating in a broadly rounded point.

Spear and arrow points are found in great profusion and fall into many types: The leaf-shaped, the stemmed and flat, the ridged, the beveled, the eyed, the notched, the toothed, the spatula-shaped, the short-stemmed, the barbed or pronged, the conical, the rolled socketed, and the ridged socketed.

Earthworks and Mounds

172 *Aztalan.*—Apart from the mounds there is one very famous earthwork in Wisconsin called Aztalan (pl. 12) which has for many decades puzzled archeologists. We will not enter into any of the numerous explanations given at different times by observers, but will confine ourselves exclusively to quoting the rather clear description given by Mr. G. A. West:[13]

> The inclosure and associated earthworks at Aztalan, on the Crawfish River in Jefferson County, have long been considered among the most interesting and important

[11] The Wisconsin Archeologist, vol. 3, no. 2, p. 61.
[12] Ibid., p. 62.
[13] "The Indian earthworks of Wisconsin antiquities," Wisconsin Archeologist, vol. 6, no. 4, pp. 169-222.

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WINNEBAGO BONE IMPLEMENTS

(From Wisconsin Archeologist)

[Facing p. 88(B)]

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241 [778] In the middle of the field was usually placed an earthen representation of the clan animal. As to how squash and beans were planted, no reliable information is available. The corn was planted in small circular mounds which, to judge from those near Madison, Wis., were arranged in remarkably straight rows.

[442 177] The author is unable to say what type of implements was used, as the Winnebago have been using those of European manufacture for many years and have no recollection of any other kind.

241 527 782 If anyone had more corn planted than he could take care of he gave a feast, to which he invited all who had hoes. At this feast dried corn was used. On this occasion the people sacrificed tobacco to their hoes, so that they might not cut themselves with these implements or have other accidents. Then they all joined in helping their host cultivate his corn.

249 In addition to the above-mentioned patches, most Winnebago had small fields of tobacco, which were regarded as very sacred. The tobacco grown on these was used only for sacrificial purposes. Sacred gourds also were planted in these fields.

222 *Berry picking.*—From the earliest times the Winnebago were known for their bountiful supply of berries. Every fall parties of men, women, and children went out to pick cranberries and whortleberries.

222 787 *Customs when berries are ripening.*—If a man has a son whom he loves very much, he has him fast as soon as the berries and other things begin to ripen. If this boy dreams of something good, then he (the father) gives a feast with the newly ripened food and the boy eats. If the boy does not dream of anything good after four days, the father makes him eat and has him try again.

222 *Rice gathering.*—In common with the Central Algonquian tribes, with whom they have come in contact, especially the Menominee, the Winnebago spent a number of weeks every year gathering wild rice. The following description of the manner in which this is done is taken from a newspaper article published by Prof. A. E. Jenks of the University of Minnesota:

> Fox River from its source to Lake Winnebago was for hundreds of years a very productive field for this aquatic cereal, and along this river the Winnebago lived in plenty and peace with several wild rice eating tribes of the Algonkin stock. Probably a few families still gather their annual crop in that old domain; but most of the wild rice which the tribe now gathers is obtained in the sloughs of the Mississippi River near Lacrosse, Wis., and on the Iowa side of that river
>
> The Winnebago gather the grain by running their canoes into the tall standing stalks before the grain is ripe. A stick is held in each hand of the harvester, one being used to draw the standing stalks over the edge of the canoe, while the other one is employed in tapping or striking the heads of the stalks, thus knocking the grain out of the fruit head into the canoe. After the canoe is full it is taken to the shore and emptied.

252 262 *Preparation of foods.*—Meats were prepared by broiling, in three ways—on stakes, over a rack, or under hot ashes. Only the ribs

1:Radin E-5 (1908-1913) 1923
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and the breast of most animals were considered good portions, but the head of the deer was included. Other portions were eaten, however. For infants the deer's tail was considered a delicacy. Now, when they eat meat provided by the white man, rib roast of beef is the favorite meat of the Winnebago.

The Winnebago were very fond of soups of all descriptions. Most of these were meat soups with the addition of vegetables or berries.

Most time was, however, spent in the preparation of vegetable foods, especially in the preparation of wild rice and corn. For the preparation of rice I will again quote Professor Jenks's article:

> At this stage of the harvest when the Winnebago gather the wild rice, the kernel is very like a long oat and has a tenacious hull, which must be removed before the grain can be eaten. The necessity of removing this hull and the unripe condition of the grain make it necessary to dry it artificially. This is usually done by spreading the kernels yet inclosed in the hull upon a rack of lattice work, under which a slow fire is kept burning. The grain is cured and the hull made brittle by the heat and smoke. The next process is the thrashing. The Winnebago thrashes the grain by the use of a most primitive flail. He spreads a blanket, rush mat, or deerskin on the ground, upon which he puts the now cured grain. Along three sides of the blanket he erects a screen of similar material. At the open side of this screen the man squats on his knees, and beats the grain with a straight stick in each hand, thus releasing it from the hull. When it has been thrashed the woman gathers up the contents of the blanket and winnows the mass by letting it fall from a vessel held high in the air upon a blanket or mat laid on the earth; the wind blows away the chaff from the falling grain and leaves the clean kernels.

The Winnebago distinguished a number of different kinds of corn, the principal ones being *wahi'xerɛ*, yellow-stalked; *hiraxalona*, sweet corn; and *waruc'ixɛ*, red-colored corn. The cornstalk was called *waha'*, the corn proper, *witca'ᵊwaⁿs*, and the cob, *woxa'k'*. The corn is pounded on a rack (*waick'*) and then shelled, the grain falling through the rack and the cobs remaining on top. After being shelled the corn is steamed. Then the stones necessary for cooking it are gathered and the corn is picked. When this is finished, a hole is dug in the ground and red-hot stones are put in. Over this the husks are put and upon these the corn; then another layer of husks, etc. The top always is covered with husks. Four holes are made through the husks, into which four pails of water are poured and the whole is covered with a thick layer of earth and the corn left there overnight. The next morning it will be entirely cooked.

In shelling, the outer part of an oyster shell is used. When the shelling is over the corn is spread out and dried.

Squash is prepared as follows: After the skin has been removed the squash is cut into slices and the seeds taken out; the slices of squash are then put on poles to dry. The dried squash is called *hotca'ᵊwaᵊdaxuxu*. There are two varieties of this vegetable—*witca'ᵊwaᵊ*, Hubbard squash, and *witca'ᵊwaᵊnaxik*, small-kernel squash.

Fruit was dried, but by what process the author has not learned.

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252 In addition to the vegetable foods above referred to, the following
262 may be mentioned: *Teere'pare*, a plant growing in the water, the root of which was eaten boiled with meat; *wakniphere* and *hᵂipk hoi'dja*, awl plant and peavine, respectively, of which only the roots were eaten; and finally the *dora*, wild potato, a favorite dish. The skin was peeled off; then the potato was dried in the sun and afterwards boiled. *Naᵂpa'hᵏ*, chokecherries, were eaten raw. *Pᵂapkxi'* and *maᵂhi'nic*, a lowland weed, and the milkweed, respectively, were also utilized. Of the former, the boiled root was eaten; of the latter, the boiled head. Small quantities of food which required grinding were put into a squirrel hide from which the hairs had been removed, and were pounded with a stone. A mill consisting of a dug-out trunk with handles attached was also used.

251 *Preservation of food.*—In former times meat was hung on long
415 racks for preservation. Corn was cached (*wore'*). Dried berries were kept in bags woven from vegetable fibers. These bags were
[531 always covered with designs, mostly of geometric patterns, although
422] realistic designs, as elk, deer, thunderbirds, and water spirits, all unquestionably property marks, were frequently used. There were two types of bags, that closely woven (*p'aᵂ*) (pls. 32–36), just mentioned, and matting bags with fairly large openings in the meshwork (pl. 37). Food stored away at home was generally placed in a part of the lodge reserved for the purpose.

262 *A Winnebago menu.*—To give an idea of the favorite dishes of the Winnebago, the names of several mentioned in one of the myths are here appended: Small dried corn boiled with bear's ribs; jerked meat with bear's fat; deer's fat; deer's grease frozen in a hole in the ground; dried corn boiled with fruit; deer-loin soup.

412 *Cooking and eating utensils* (pl. 38).—With regard to the kind
415 of cooking and eating utensils used in the old days there exists even among the Indians themselves considerable difference of opinion. According to some, their ancestors never used wooden utensils, mills, spoons, and plates, but utilized shells of various kinds or other natural objects suitable to their needs. Others state, on the contrary, that, in early times, in addition to such natural objects, wooden vessels of many kinds were fashioned from maple knots. These are said to have been burned out, a very tedious process, or even to have been cut out with adzes. It is quite impossible to decide this question now. Wooden implements and utensils in great variety are, of course, found among the Winnebago at the present time, but these are supposed by many to have been introduced by the neighboring Algonquian tribes and by early French traders. The main contention of the present-day
[77] Winnebago is, however, that their ancestors could never have made this woodenware without the aid of European implements, burning out being a tedious and unsatisfactory method.

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a. WOODEN DISHES

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b. WOODEN SPOONS

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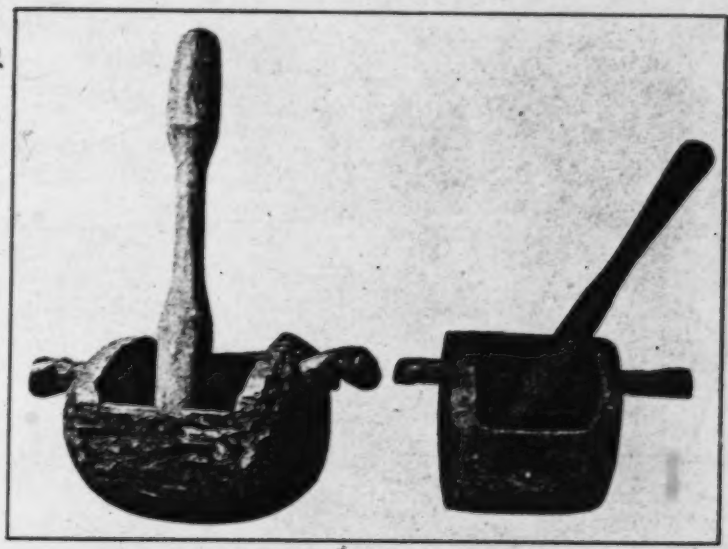

c. WOODEN MORTARS AND PESTLES

[Facing p. 118 (H)]

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It might be said that all recollection of the making of wooden vessels could easily have been lost in the last century or two and that therefore too much weight should not be given to present ignorance of the subject. There are a number of reasons, however, why ignorance in this particular case might be significant. First, many indications point to workmanship of a low order among the Winnebago in the manufacture of artifacts; second, there are many suggestions of two cultural strata in this tribe; third, while the Winnebago in Wisconsin still use wooden vessels, many of them claim that these were introduced; and fourth, all the informants who gave this information were old people. If the author were to hazard an hypothesis, it would be the following: In very early times few objects were fashioned out of wood, but gradually contact with the Menominee led to the introduction of many wooden vessels, and finally the acquisition of European axes, knives, and other implements made it possible to manufacture such vessels in large numbers. A similar explanation was offered by an Indian with regard to the use of dugouts.

Besides wood as a material for dishes and spoons of various kinds and sizes, shells were utilized, while sticks served as knives.

All informants agree that neither bone nor stone were used in the manufacture of utensils.

For cooking, clay pots were used. These vessels, most of which were very large, with round bottoms, always hung over the fire. The material used in their manufacture was blue clay found at Green Bay, on or near the site of St. Paul, Minn., mixed with shell shards, glue from sturgeon vertebræ, and the gelatinous substance in the horns of the deer.[1] The addition of these ingredients greatly increased the cohesiveness of the clay. The material was either molded with the hands or in holes of the desired shape dug in the ground and lined with leaves. Finally, the vessels were dried over a slow fire in small kilns constructed for the purpose. None of the clay vessels were provided with handles. Some were ornamented with geometric patterns. The irregular incised designs on some Winnebago vessels are the impressions of grass blades with which the mold was lined.[2]

Fire making.—In former times fire was always made by means of a simple fire drill. This method is still used for ceremonial occasions.

Tanning.—The author never witnessed the process of tanning. The description obtained agrees exactly with that of Mr. A. Skinner here quoted:[3]

> After the skin has been removed, the hair is scraped from it. During this process the skin is hung over an obliquely inclined log, one end of which has been smoothed

[1] One informant gave a description of pottery making in which a wheel was used, but as no other Winnebago corroborated this statement the author is convinced that it is inaccurate.

[2] Author, Papers Amer. Mus. Nat. Hist. pt. iv, pt. ii, pp. 349-388.

1:Radin E-5 (1908-1913) 1923
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281 off on the upper surface. The beaming tool is then grasped in both hands and pushed away from the user against the grain of the hair over the skin where it lies on the smoothed surface of the stick or leg. This process is the same as that followed by the Northern Ojibway and Eastern Cree. The next step is to stretch the skin on a square, upright frame. A fleshing tool is then brought to bear, although the beamer is often made to answer this purpose. When the skin has been fleshed, it is soaked in a mixture of deer's brains and water. No grease is added. This preparation is kept in liquid form in a pail and lasts some time. After remaining in the brain fluid for a time, the skin is taken out and thoroughly washed. Then it is taken by the tanner—who is always a woman—and dried. While the skin is drying, it is rubbed with a wooden spatula to make it flexible. It is now ready for the last step—smoking. For this process it is first sewed up into a cylindrical shape, and the upper end is tied together to form a bag. By this closed upper end it is then suspended over a shallow hole from a stick driven obliquely into the ground at an angle of about 45 degrees. In the hole a fire is built with dried wood. The open lower edge of the skin bag is pegged or fastened to the ground about the edge of the hole.

Games and Amusements

526 Lacrosse was the favorite game of the Winnebago. This was generally played on ceremonial occasions. Whenever played, the two divisions of the tribe, the Waⁿgɛre'gi and the Mape'gi, were pitted against each other. There were two kinds of lacrosse, one played by men and the other played by women; these differed in a number of particulars.

526 462 *Men's lacrosse.*—The men's game was called *teabosino'pugis hik'eik'*. There were either 12 or 22 men on each side, placed in the following manner: Two, one of each side, stood in front of the arched sapling which constituted one of the goals (*wak'a'rani*); these were called *wai'iygra*. There were, of course, two goals, each about 10 feet high, one at each end of the field. About midway between the goals a small mound was made from which the ball was thrown. Ten or twenty men, as the case may be, covered the ground between the mound and the two men stationed at each *wak'a'rani*. The lacrosse stick was called *teabonadu'gis*, and the ball used either *tci-oko'nâkra* or *wa'i'i'pa*. The object of the game was to put the ball through the goal four times. At the beginning of the game the ball was thrown straight into the air from the mound. (For plan of the game, see fig. 27.)

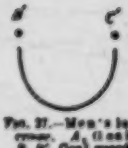

FIG. 27.—Men's lacrosse. A, A' (goal), B, B', (goal) guards of widespread sides. C, C', (goal) guards of nearer sides. D, Mound from which ball is thrown.

526 *Ceremonial lacrosse.* The following description of a ceremonial lacrosse game was given by a member of the Bear clan:

The Waⁿgɛre'gi and the Mape'gi people were to play lacrosse. So the Waⁿgɛre'gi took an invitation stick and attached some tobacco to it and sent it to the Mape'gi people. Then they fixed a day for the contest. The contest was to be in four days. In the meantime both sides were to get ready, for some might be without balls or sticks, etc. Then the Waⁿgɛre'gi said, "We are the faster and will therefore go and

1:Radin E-5 (1908-1913) 1923
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Tree game.—Two trees are selected about 20 feet apart, one having a branch about 15 feet from the ground. A number of people stand ready at the side of this tree and the one whose turn it is to play tries to hit the branch. When he succeeds in doing so all run toward the other tree. As soon as the player gets the ball he tries to hit the runners. If successful in this before the others have reached the tree he wins; otherwise they are "safe" and he must try again. The Winnebago called this game *hahi'hidjikᵉᵃᵉ*. 526

TRAVEL AND TRANSPORTATION

Canoes and dugouts.—All the boats found in the early days in the territory originally inhabited by the Winnebago were dugouts, yet a number of the tribe questioned denied positively that boats of this kind were in common use before the coming of the whites. According to these informants, in former times the Winnebago always had their home in a birch country, and had at hand, therefore, the requisite material for making canoes; moreover, birch-bark canoes were much easier to construct than dugouts, for which logs had to be hollowed by burning—a process that might consume weeks. Only when the whites introduced the ax and the knife did it become practicable to make dugouts. These implements became available at the time of the southern migration of the tribe into a region where birch bark was scarce, and one result of the change was the substitution of the dugout for the canoe. The validity of this explanation is supported by the same line of argument as in the case of the wooden vessels. 501 412 177 167

Snowshoes. The snowshoes of the Winnebago were similar to those used by the Menominee, with this difference, that the two pieces of wood forming the "handle," instead of being tied together for their whole length, as among the latter, were left unfastened for about 5 inches at the end. This difference is immediately detected (pl. 40) by the present-day Winnebago, who can easily identify, by the feature mentioned, snowshoes belonging to the tribe. 481 177

MUSICAL INSTRUMENTS

The musical instruments of the Winnebago seem to have been restricted to the flute, drum, and gourd. The flute was made of red cedar and usually had a range of five or six notes; it was used at many ceremonies, and especially by young men when courting. The drum consisted of a framework (in later days a wooden pail or a barrel served the purpose), over which a skin was drawn very tight. A small quantity of water was always kept in the drum so that the skin could be wet as often as necessary. Rattles consisted of dried gourds filled, in olden times, with seeds, in more modern times with buckshot (pl. 30, *d*, *f*). 534

5: McKern E-5 (1927) 1929
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yond the need of further nursing. Standing alone above this altar, Big Wave then offered, in his native tongue, a prayer to be carried upward by the fire to Creator. In a low voice he thanked Creator who taught the use of fire to the Indians, that it might live with them forever and watch over them. He expressed satisfaction that new fire had been started on this occasion, so that all present might enjoy the benefits of life. He described the fire as an interpreter, conveying to the spirit world the prayers of men. He then sprinkled tobacco upon the fire, saying: "This tobacco I offer you (the spirits) that you may do that which I ask of you, that you may grant to all here, our wives and children, and all our relatives, good fortune and all the benefits of life. This prayer is for others who will also give tobacco."

Later, when the meeting was convened and the guests filed into the ceremonial lodge, many silently sprinkled tobacco on the fire, thereby sharing the benefit of this prayer. This tobacco sacrifice is called, filling the spirits' pipe.

As soon as the new fire was burning well, coals were removed therefrom with which to start the cooking fires outside the lodge, for the feast must be cooked over sacred fire. Two short poles were placed on either side of the fire, topped by a crosspiece from which the pots were suspended on chains. Water was boiled, with which all the pots were thoroughly washed. Then the meat (fowl, beef and pork) was prepared for cooking. The fowls had to be singed over the sacred fire. A definite number of equal portions were placed in each pot, since each participating family was to share the contents of a single pot which, therefore, must contain a portion for every member of the invited group.

While the war-bundle owner's helpers, the waiters, selected from his paternal nephews when possible, were preparing the feast, he himself entered the lodge, took down the war-bundle from where it hung on the north wall opposite the fire and spread it out on the ground immediately west of the fire. Although much of the contents of the bundle appeared to be very old, the cover-piece was of cloth. The bundle was unrolled and spread out upon this rectangular piece of goods. The inner wrapper was of matting. Upon this a variety of fetishes and elements of ceremonial equipment was displayed. These included various bird skins, reed whistles and an old fire drill set which had long been out of use due to the fact that the base piece was entirely covered with holes, without interval, and as deep as the thickness of the piece would permit.

Two beaded snake-skin fetishes were suspended from the top of a peeled stake set up between the bundle and the fire. Adjoining this a sharpened stick, later to be used as a meat fork in distributing the meat, was placed, the handle thrust into the ground. Two fine old war clubs from the bundle were also placed between fire and bundle, their handles thrust into the ground. Two bowls, one containing tobacco and the